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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/575,340

06/21/2007

Anthony Charles Hunt

0435.105

1720

23405

7590

01/16/2009

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EXAMINER

PORTER, JR, GARY A

ART UNIT

PAPER NUMBER

3766

MAIL DATE

DELIVERY MODE

01/16/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/575,340	<b>Applicant(s)</b> HUNT, ANTHONY CHARLES	
	<b>Examiner</b> GARY A. PORTER, JR	<b>Art Unit</b> 3766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/10/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because Fig. 2, 5 and 6 are of poor quality and have portions of the figures that are faded and/or missing. Furthermore, some of the graphs contain discontinuous lines. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Specifically in regards to claim 1, it is unclear as to the origin of the first and second sets of ECG data. For instance, the ambiguity of the claim makes it unclear if the first and second sets of ECG data are from the same ECG lead at different points in time, different ECG leads at the same point in time, different ECG leads at different points in time, etc.

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5. Furthermore, claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: The step specifying how the first and second sets of ECG data are derived. Applicant claims "derived ECG signal data" without claiming an intervening step on how the signals are derived. The step specifying inverting a T wave of a second set of data. Applicant claims "an inverted T wave of a second set of derived ECG signal data" without claiming the intervening step on how the T wave is inverted.

6. Claim 6 recites the limitation "said interval." There is insufficient antecedent basis for this limitation in the claim. It appears that the interval referred to is the predetermined interval of claim 5. If this is the case, the Examiner suggests changing claim 6 to depend from claim 5.

7. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step of exactly how "an interval can be varied according to noise content of an ECG deemed to be an isoelectric baseline segment". No intervening steps claim how the noise content is determined therefore it is unclear as to how the interval will be varied if there is no definition of the criteria used to vary the interval.

8. Claim 7 recites the limitation "an ensemble of ECG signals for each lead." There is insufficient antecedent basis for this limitation in the claim. No leads have been defined previously in the claims.

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9. Claim 9 recites the limitation "the isoelectric baseline" in line 4 of the claim.

There is insufficient antecedent basis for this limitation in the claim.

10. Additionally, with regards to claim 9, it is unclear as to what "rest of ECG" in line 5 of the claim means. Examiner is unsure if Applicant means "**the** rest of **the** ECG" or "**the** rest of **an** ECG" or "**a** remainder of **the** ECG", etc (emphasis added). Also, it is unclear as what the quantity "rest" defines of the ECG. It could define the Q wave, R wave, S wave, T wave, QT interval, etc.

11. Claim 12 recites the limitation "testing for presence of a single crossing of one isoelectric line" is deemed indefinite since it is unclear what is crossing one isoelectric line and if there is more than one isoelectric line since a distinction has been made of "one" isoelectric line.

12. Claim 13 recites the limitation "or otherwise transformed" is indefinite since it is unclear as to what exactly Applicant qualifies as a valid transformation procedure.

13. Regarding claim 14, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

14. In regards to claim 15, the limitation "ensembled orthogonal leads" is indefinite since it is unclear as to how the orthogonal leads interface with the system. The claim is also indefinite since it is unclear if the ensembled orthogonal leads are the source of the first and second ECG data sets of claim 1.

15. With regards to claim 16, the limitation "finding a beginning of the QT interval by an established method" is indefinite since it is unclear as to what method is required by

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the claim. Furthermore, it is unclear as to what ECG signal the beginning of the QT interval is being found.

16. In regards to claim 17, the limitation “calculating the QT interval by subtracting the beginning of the QT interval from the end of the T wave” is indefinite. It is unclear as to what QT interval and T wave is being referred to, i.e. if it is from the first or second set of derived ECG data.

17. Claims 2-5, 8, 10, 11, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph as being dependent upon a previously rejected claim.

18. Claims 20-40 contain similar issues of indefiniteness as claims 1-17 and require correction and clarification.

***Claim Rejections - 35 USC § 101***

19. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

20. Claim 1-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, Applicants' claims are directed to a judicial exception of 35 U.S.C. 101. The method claims of the present application relate to abstract ideas, rather than practical applications of those ideas. Specifically, the claims do not require any physical transformation and the invention as claimed does not produce a useful, concrete and tangible result. See MPEP § 706.03(a).

21. To overcome the rejection, in specific reference to Claim 1, the Examiner recommends adding a tangible, useful and concrete method step wherein the method

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“employs” the “identifying”, “determination”, and “superimposition” by “performing an action” or “completing a method step” using a device/system of some sort.

22. To overcome the rejection, in specific reference to claim 3, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “acquiring”, “deriving”, “inverting”, “identifying”, “calculating”, “detecting”, and “determining” by “performing an action” or “completing a method step” using a device/system of some sort.

23. To overcome the rejection, in specific reference to claim 7, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “calculating” by “performing an action” or “completing a method step” using a device/system of some sort.

24. To overcome the rejection, in specific reference to claim 9, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “filtering” by “performing an action” or “completing a method step” using a device/system of some sort.

25. To overcome the rejection, in specific reference to claim 10, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “shifting” by “performing an action” or “completing a method step” using a device/system of some sort.

26. To overcome the rejection, in specific reference to claim 11, the Examiner recommends adding a tangible, useful and concrete method step wherein the method

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“employs” the “detecting and correcting” by “performing an action” or “completing a method step” using a device/system of some sort.

27. To overcome the rejection, in specific reference to claim 12, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “testing” by “performing an action” or “completing a method step” using a device/system of some sort.

28. To overcome the rejection, in specific reference to claim 13, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “rotation” by “performing an action” or “completing a method step” using a device/system of some sort.

29. To overcome the rejection, in specific reference to claim 14, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “applying” by “performing an action” or “completing a method step” using a device/system of some sort.

30. To overcome the rejection, in specific reference to claim 15, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “summing” by “performing an action” or “completing a method step” using a device/system of some sort.

31. To overcome the rejection, in specific reference to claim 16, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “finding” by “performing an action” or “completing a method step” using a device/system of some sort.



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32. To overcome the rejection, in specific reference to claim 17, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “calculating” by “performing an action” or “completing a method step” using a device/system of some sort.

33. To overcome the rejection, in specific reference to claim 18, the Examiner recommends adding a tangible, useful and concrete method step wherein the method “employs” the “measuring” by “performing an action” or “completing a method step” using a device/system of some sort.

34. Claims 2, 4-6 and 8 are rejected under 35 U.S.C. 101 as being dependent on a previously rejected claim.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY A. PORTER, JR whose telephone number is (571)270-5419. The examiner can normally be reached on Monday - Thursday, 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Layno can be reached on (571)272-4949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. A. P./  
Examiner, Art Unit 3766

/Carl H. Layno/  
Supervisory Patent Examiner, Art  
Unit 3766